

## **Amendments to the Claims**

### **Listing of Claims:**

1. (Currently Amended) An apparatus for the separation of solids and liquids comprising:

a perforated basket which is mounted rotatably within a fixed outer

casing, said perforated basket having a perforated outer surface through which liquids are centrifugally expelled from the basket, said fixed outer casing having an inner surface that faces the perforated outer surface of the perforated basket and receives the liquids centrifugally expelled from the basket,

a washing liquid supply means for providing washing liquid to the basket and its contents, and

a ~~device~~ transducer for establishing a control signal representative of the state of liquids centrifugally expelled from the basket, the transducer located in or on the inner surface of said fixed outer casing for monitoring the conductance of the liquids centrifugally expelled from the basket when such liquids impinge on an and flow down the inner surface of said fixed outer casing, said transducer comprising at least two electrodes set in an electrically insulating material and having a distance therebetween.

2-3. (Cancelled)

4. (Currently Amended) An apparatus according to claim [3]1,  
wherein said inner wall of the outer casing is cylindrical and said transducer is  
itself at least part cylindrical.

5-6. (Cancelled)

7. (Currently Amended) An apparatus according to claim [2]1,  
~~wherein the device comprises a transducer in one of in and on the inner wall of~~  
~~the outer casing, the transducer comprising at least two electrodes set in an~~  
~~electrically insulating material, and wherein said inner wall of the outer casing is~~  
cylindrical and said transducer is itself at least part cylindrical.

8. (Currently Amended) An apparatus according to claim [2]1,  
wherein the transducer comprises electrodes coupled to one of an AC bridge and  
other form of electronic controller.

9. (Original) An apparatus according to claim 8, wherein the  
transducer comprises electrodes which have no adjacent parallel sides whereby  
to increase the range for which the proportional relationship between the  
conductance measured via the transducer and the depth of the liquid flowing  
over the transducer is increased.

10. (Original) An apparatus according to claim 9, wherein the connections from the transducer to the AC bridge or the electronic controller are re-adjustable externally to allow the effective increase/decrease in the amount of electrically insulating material between the electrodes.

11. (Currently Amended) An apparatus for the separation of solids and liquids comprising:

a perforated basket which is mounted rotatably within a fixed outer

casing, said perforated basket having a perforated outer surface through which liquids are centrifugally expelled from the basket, said fixed outer casing having an inner surface that faces the perforated outer surface of the perforated basket and receives the liquids centrifugally expelled from the basket,

a washing liquid supply means for providing washing liquid to the basket and its contents,

a transducer for establishing a control signal representative of the

state of liquids centrifugally expelled from the basket, the transducer located in or on the inner surface of said fixed outer casing for monitoring the conductance of the liquids centrifugally expelled from the basket when such liquids impinge on ~~an~~ and flow down the inner surface of said fixed outer casing, and

an auxiliary wash pipe for cleaning the surfaces of the transducer  
and to facilitate calibrations.

12. (Currently Amended) An apparatus for the separation of solids  
and liquids comprising:

a perforated basket which is mounted rotatably within a fixed outer casing, said perforated basket having a perforated outer surface through which liquids are centrifugally expelled from the basket, said fixed outer casing having an inner surface that faces the perforated outer surface of the perforated basket and receives the liquids centrifugally expelled from the basket,

a washing liquid supply means for providing washing liquid to the basket and its contents,

a ~~device~~ transducer for establishing a control signal representative of the state of liquids centrifugally expelled from the basket, the transducer located in or on the inner surface of said fixed outer casing for monitoring the conductance of the liquids centrifugally expelled from the basket when such liquids impinge on ~~an~~ and flow down the inner surface of said fixed outer casing, and

a temperature sensing device to measure the temperature of the liquid and send a signal to adjust the generated output accordingly.

13. (New) An apparatus according to Claim 1, whereing the liquids flowing down the inner surface of said fixed outer casing have a maximum radial thickness of  $d$ , wherein the distance between the at least two electrodes is a distance  $t$ , wherein  $t < d$ , and wherein the control signal established by the transducer is representative of the percentage contamination of the liquids.

14. (New) An apparatus according to Claim 1, whereing the liquids flowing down the inner surface of said fixed outer casing have a maximum radial thickness of  $d$ , wherein the distance between the at least two electrodes is a distance  $t$ , wherein  $t > d$ , and wherein the control signal established by the transducer is representative of a radial thickness of the liquids.

15. (New) An apparatus according to Claim 1, whereing the liquids flowing down the inner surface of said fixed outer casing have a maximum radial thickness of  $d$ , wherein the transducer comprises at least two electrodes separated by a distance  $t$  where  $t < d$  in order to establish a control signal that is representative of the percentage contamination of the liquids, and wherein the transducer comprises at least two electrodes separated by a distance  $T$  where  $T > d$  in order to establish a control signal that is representative of the radial thickness of the liquids.

16. (New) An apparatus according to Claim 15 wherein the at least two electrodes separated by a distance  $t$  and the at least two electrodes separated by a distance  $T$  are externally selectable via alternative connections.